

February 26, 2002

Bruce Garner
Central Corrugated
5645 W. 82nd St., Indianapolis, IN. 46278

Re: Registered Construction and Operation Status,
097-15013-00312

Dear Mr. Garner:

The renewal application from Central Corrugated, received on September 12, 2001, has been reviewed. A Registration Revision (097-15218-00312) request, made on January 14, 2002, has been combined into this review for the purpose of the permit. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following Converted Paper and Paperboard Products operation, to be located at 5645 W. 82nd St., Indianapolis, Indiana, is classified as registered:

The source consists of the following emission units and pollution control devices:

- (a) One (1) Cleaver Brooks natural gas fired boiler, identified as EU1, with a maximum capacity of 25.106 MMBTU/hr., exhausting to Stack Vent ID 1. Installed 1994.
- (b) One (1) Marquip/Peters corrugator, identified as EU2, with a maximum capacity of 135,000 tons per year, using a trim scrap cyclone as control, identified as CE1, and exhausting to Stack Vent ID 2. Installed 1977.
- (c) One (1) International Paper Box Co. right angle gluer, identified as G-4, with a maximum capacity of 85,000 sheets/hr, exhausting to Stack Vent ID 2. Scheduled installation date is March 2002.
- (d) Two (2) Bobst flatbed diecutters, identified as DC-5 and DC-6, emission unit DC-5 has a maximum capacity of 5,000 sheets/hr and emission unit DC-6 has a maximum capacity of 4,500 sheets/hr. Both Emission Units use a trim scrap cyclone as control, identified as CE1, and exhausting to Stack Vent ID 2. Scheduled installation date for DC-5 and DC-6 is March 2002.
- (e) One (1) Vortex starch silo, identified as EU3, with a maximum capacity of 24,000 lbs/hr, using a bin vent bag filter as control, identified as CE2, and exhausting to Stack Vent ID 3. Installed 2000.

The following conditions shall be applicable:

Pursuant to IAPCB Regulation 2 (Permits) and 326 IAC 2-5.5-4 (Registration Content), an authorized individual shall provide an annual notice to the Office of Environmental Services and the Office of Air Quality that the source is in operation and in compliance with this Registration pursuant to state regulation 326 IAC 2-5.5-4(a)(3).

Pursuant to the requirements of 326 IAC 2-6, the permittee shall submit an annual emission statement that must be received by April 15 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4.

The annual emission statement covers the twelve (12) consecutive month time period starting December 1 and ending November 30. The annual emission statement must be submitted to:

**Compliance Data Section
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015**

and

**Office of Environmental Services
Air Quality Management Section, Compliance Data Group
2700 South Belmont Avenue
Indianapolis, Indiana 46221-2097**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of thirty percent (30%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

Pursuant to 326 IAC 6-2 (Particulate Emissions Limitations for Sources of Indirect Heating) The 25.106 MMBTU/hr natural gas fired boiler is subject 326 IAC 6-2 (Particulate Emissions Limitations for Sources of Indirect Heating). Pursuant to 326 IAC 6-2-4, the particulate matter (PM) emissions shall be limited to 0.48 pounds per million BTU heat input based on the following equation:

$$PM = 1.09/Q^{0.26}$$

where: PM = lb/MMBTU

Q = total source maximum operating capacity, in MMBTU/hr

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations) PM from the Emission Unit ID's EU-2, DC-5, and DC-6 shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Pursuant to 40 CFR Part 60 Subpart Dc and USEPA memorandum of February 20, 1992. Monthly records, for the Cleaver Brooks natural gas fired boiler, shall be retained for a period of at least five (5) years from the date of the generation of the measurement or record.

This registration is a revised registration issued to this source. The trim scrap cyclone must operate at all times when the pneumatic scrap collection system is in operation. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality, OAQ, and the City of Indianapolis, OES, that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3). The annual notice shall be submitted to:

**Compliance Data Section
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015
and
Office of Environmental Services
Air Quality Management Section, Compliance Data Group
2700 South Belmont Avenue
Indianapolis, Indiana 46221-2097**

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original Signed by Jodi Perras Kusmer
Jodi Perras Kusmer, Acting Administrator
Office of Environmental Services
City of Indianapolis

SLD

cc: file (2 copies)
Mindy Hahn, IDEM

Registration Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3)

Company Name: Central Corrugated

Address: 5645 W. 82nd St.

City: Indianapolis

Authorized individual: Bruce Garner
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Phone #: (317) 577-2637 extension 329
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Registration #: 097-15013-00312
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I hereby certify that Central Corrugated is still in operation and is in compliance with the requirements of Registration 097-15013-00312.

Name (typed):

Title:

Signature:

Date:

**Indiana Department of Environmental Management
Office of Air Quality
and
City of Indianapolis
Indianapolis Office of Environmental Services**

**Technical Support Document (TSD) for a New Source Construction and
Registration**

Source Background and Description

Source Name: Central Corrugated
Source Location: 5645 W. 82nd St., Indianapolis, IN. 46278
County: Marion County
SIC Code: 2679
Operation Permit No.: 097-15013-00312
Permit Reviewer: Scott L. Dombrowski

The City of Indianapolis Office of Environmental Services (OES), and The Office of Air Quality (OAQ) have reviewed an application from Central Corrugated relating to the operation of existing permitted equipment (boiler, corrugator) and the construction of new equipment (diecutters, right angle gluer).

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) Cleaver Brooks natural gas fired boiler, identified as EU1, with a maximum capacity of 25.106 MMBTU/hr., exhausting to Stack Vent ID 1. Installed 1994.
- (b) One (1) Marquip/Peters corrugator, identified as EU2, with a maximum capacity of 135,000 tons per year, using a trim scrap cyclone as control, identified as CE1, and exhausting to Stack Vent ID 2. Installed 1977.

Unpermitted Emission Units and Pollution Control Equipment

The source also consists of the following unpermitted facilities/units:

- (a) One (1) International Paper Box Co. right angle gluer, identified as G-4, with a maximum capacity of 85,000 sheets/hr, exhausting to Stack Vent ID 2. Scheduled installation date is March 2002.
- (b) Two (2) Bobst flatbed diecutters, identified as DC-5 and DC-6, emission unit DC-5 has a maximum capacity of 5,000 sheets/hr and emission unit DC-6 has a maximum capacity of 4,500 sheets/hr. Both Emission Units use a trim scrap cyclone as control, identified as CE1, and exhausting to Stack Vent ID 2. Scheduled installation date for DC-5 and DC-6 is March 2002.
- (c) One (1) Vortx starch silo, identified as EU3, with a maximum capacity of 24,000 lbs/hr, using a bin vent bag filter as control, identified as CE2, and exhausting to Stack Vent ID 3. Installed 2000.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) CP 965052, issued on October 31, 1996.
- (b) AA 097-12789-00312, Administrative Amendment, issued May 10, 2001.
- (c) R 097-15218-00312, Registration Revision Request, received January 14, 2002 and for the purpose of this permit combined into this review.

All conditions from previous approvals were incorporated into this permit.

Air Pollution Control Justification as an Integral Part of the Process

The company has submitted the following justification such that the trim scrap cyclone, identified as CE1, be considered as an integral part of the pneumatic scrap collection system:

- (a) Intended purpose of cyclone is to pull large chunks of cardboard away from the corrugator and diecutters and to bale the cardboard and ship it off site. The cardboard chunks are not airborne particulate; therefore emissions will be looked at after cyclone control. The emission factor for this review (and all previous reviews) is after cyclone control of the pneumatically conveyed cardboard chunks. This determination was made previously for this source in 1996 and has been used in similar cardboard baling processes at similar facilities.

IDEM, OAQ, and the City of Indianapolis, OES, have evaluated the justifications and agreed that the trim scrap cyclone will be considered as an integral part of the pneumatic scrap collection system. Therefore, the permitting level will be determined using the potential to emit after the trim scrap cyclone. Operating conditions in the proposed permit will specify that this trim scrap cyclone shall operate at all times when the pneumatic scrap collection system is in operation.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
1	EU1	28	2	9300	367
2	EU-2,DC-5, DC-6	53'	n/a	50,000	70
3	EU3	44	n/a	8" x 14"	2,000

Recommendation

The staff recommends to the Administrator that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on September 12, 2001, with additional information received on January 14, 2002.

Emission Calculations

See the attached Appendix A pages 1 through 3 for detailed emissions calculations

Potential To Emit of the Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	12.4
PM-10	12.4
SO ₂	0
VOC	5.4
CO	0
NO _x	0

HAP's	Potential To Emit (tons/year)
Acetaldehyde	1.7
Formaldehyde	1.7
Vinyl acetate	1.7
TOTAL	5.1

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 2000 OAQ emission data.

Pollutant	Actual Emissions (tons/year)
PM	4.72
PM-10	4.72
SO ₂	0.01
VOC	0.11
CO	1.62
NO _x	2.02
HAPs (Acetaldehyde, Formaldehyde, Vinyl acetate)	0.0

County Attainment Status

The source is located in Marion County.

Pollutant	Status
PM-10	unclassifiable
SO ₂	maintenance attainment
NO ₂	attainment
Ozone	maintenance attainment
CO	attainment
Lead	unclassifiable

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Marion County has been designated as attainment or unclassifiable for ozone. Therefore, VOC were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	9.6
PM10	9.6
SO ₂	0.1
VOC	0.3
CO	3.8
NO _x	15.4

- (a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 100 tons per year or more, and it is not in one of the 28 listed source categories.
- (b) Since the source wide emissions for PM and NO_x are greater than 5 tons per year but less than 25 tons per year for this new source, section 326 IAC 2-5.1 applies to this source, and it will be a Registration.

Proposed Modification

Pollutant	PM (ton/yr)	PM10 (ton/yr)	SO ₂ (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO _x (ton/yr)
Existing	9.6	9.6	0.1	0.3	3.8	15.4
Proposed Modification	12.4	12.4	0.0	5.4	0.0	0.0
Total	22.0	22.0	0.1	5.7	9.2	15.4
PSD or Offset Threshold Level	250	250	250	250	250	250

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply and this facility will remain below Minor Source Operating Permit levels.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit R-097-15218-00312, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAQ inspector assigned to the source.

Federal Rule Applicability

- (a) This source is subject to the New Source Performance Standard, 326 IAC 12, (40 CFR 60., Subpart Dc, since operation commenced after June 9, 1989 and the maximum design heat input capacity is greater than 10MMBTU/hr but less than 100MMBTU/hr. Monthly natural gas consumption for the Cleaver Brooks natural gas fired boiler, with a maximum capacity of 25.106 MMBTU/hr shall be recorded as per 40 CFR Part 60 Subpart Dc and USEPA memorandum of February 20, 1992. Records shall be retained for a period of at least five (5) years from the date of the generation of the measurement or record.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR part 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 1-6 (Malfunctions)

This source is subject to 326 IAC 1-6 (Malfunctions) because it is required to have a Permit under 2-5.1. Any source required to obtain a Permit is then subject to the applicability of this rule. Any malfunction which lasts more than one (1) hour in duration and results in excess air pollutant(s) emissions, must verbally report such malfunction within four (4) daytime business hours. Records of all such occurrences must be kept for a period of no less than three (3) years from the date of said occurrence.

326 IAC 1-6-3 (Preventive Maintenance Plans)

This source is subject to 326 IAC 1-6-3 because it is required to obtain a Permit. Any person responsible for operating any facility required to obtain a Permit shall prepare and maintain a Preventive Maintenance Plan which includes the following:

- 1) Identification of responsible individuals for inspecting, maintaining and repairing emission control devices.
- 2) Description of items and conditions that will be inspected and an inspection schedule.
- 3) Identification of replacement parts in inventory for quick replacement.

The Preventive Maintenance Plan shall be submitted upon request and subject to review and approval by OES.

326 IAC 2-2 (PSD)

Since this source was constructed prior to the 1977 PSD rule, and the modification to this source is not major, then the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 will not apply.

326 IAC 2-4.1 (New Source Toxics Control)

Since the modification to this source is not a major source of hazardous air pollutants (HAPs) as defined in 40 CFR 63.41, then 326 IAC 2-4.1 is not applicable.

326 IAC 2-5.1-2 (Registrations)

Since the source wide emissions for PM and VOCs are greater than 5 tons per year but less than 25 tons per year for this new source, section 326 IAC 2-5.1 applies to this source, and it will be a Registration.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year of NOx. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be

received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of thirty percent (30%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 6-1 (Particulate Emissions Limitations)

Marion County is listed under 326 IAC 6-1-7. However, neither the source nor facilities are listed in 326 IAC 6-1-12 and neither have the potential to emit one hundred (100) tons per year of PM or actuals of ten (10) tons or more of PM per year. Therefore, no 326 IAC 6-1 limits apply.

326 IAC 6-2 (Particulate Emissions Limitations for Sources of Indirect Heating)

The 25.106 MMBTU/hr natural gas fired boiler is subject 326 IAC 6-2 (Particulate Emissions Limitations for Sources of Indirect Heating). Pursuant to 326 IAC 6-2-4, the particulate matter (PM) emissions shall be limited to 0.48 pounds per million BTU heat input.

Allowable emissions:

$$PM = 1.09/Q^{0.26}$$

where: PM = lb/MMBTU

Q = total source maximum operating capacity, in MMBTU/hr

$$PM = 1.09/25.106^{0.26} = 0.48 \text{ lb/MMBTU}$$

$$\text{Allowable PM emissions} = 0.48 \text{ lb/MMBTU} * 25.106 \text{ MMBTU/hr} = 12.05 \text{ lb/hr} * 8760 \text{ hr/yr} * 1 \text{ ton/2000 lb} = 52.78 \text{ tons/yr}$$

$$\text{Potential PM emissions} = 1.83 \text{ lb/ton (emission factor)} * 24,140 \text{ ton/yr (maximum capacity)} * 1 \text{ ton/2000lb} = 22 \text{ tons/yr}$$

Since the PM potential emissions are less than PM allowable emissions, therefore, the boiler complies with this requirements.

326 IAC 6-3-2 (Particulate Emission Limitations)

Pursuant to 326 IAC 6-3-2(c), PM from the Emission Unit ID's EU-2, DC-5, and DC-6 shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

326 IAC 7 (Sulfur Dioxide Rules)

Neither the source nor any individual facilities have the potential to emit sulfur dioxide in excess of twenty five (25) tons per year. Therefore, 326 IAC 7 (Sulfur Dioxide Rules) does not apply.

326 IAC 8-1-6 (New Facilities; General Reduction Requirements)

The source wide VOC emissions are less than 25 tons per year. Therefore, 326 IAC 8-1-6 (New Facilities; General provisions relating to VOC rules: general reduction requirements for new facilities) do not apply to this source.

Conclusion

The construction and operation of the Corrugator Line, Boiler, Diecutters, and Right Angle Gluer shall be subject to the conditions of the attached proposed New Source Construction and Registration Permit 097-15013-00312.

Appendix A: Emissions Calculations**Natural Gas Combustion Only**

Page 1 of 3 TSD App A

MM BTU/HR <100**Small Industrial Boiler****Company Name: Central Corrugated****Address City IN Zip: 5645 W. 82nd St., Indianapolis, IN. 46278****CP: 15013****Plt ID: 312****Reviewer: SLD****Date: 02/01/2002**

Heat Input Capacity

MMBtu/hr

Potential Throughput

MMCF/yr

25.1

219.9

Pollutant

Emission Factor in lb/MMCF	PM 7.6	PM10 7.6	SO2 0.6	NOx	VOC 5.5	CO 84.0
				100.0 *see below		
Potential Emission in tons/yr	0.8	0.8	0.1	11.0	0.6	9.2

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

PM emission factors are condensable and filterable.

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

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See page 2 for HAPs emissions calculations.

updated 6/00

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
Gas Boiler
HAPs Emissions

Company Name: Central Corrugated
Address, City IN Zip: 5645 W. 82nd St., Indianapolis, IN. 46278
CP: 15013
Plt ID: 312
Reviewer: SLD
Date: 02/01/2002

AP-43 data given in lb/mmcft: To convert lb/mmcft-lb/mmbtu, divide by 1,020

HAPs - Metals

Emission Factor in lb/mmcft	Arsenic 2.0E-04	Beryllium 1.2E-05	Cadmium 1.1E-03	Chromium 1.4E-03	Lead 0.0E+00
Emission Factor in lb/mmBtu	2.0E-07	1.2E-08	1.1E-06	1.4E-06	0.0E+00
Potential Emission in tons/yr	2.16E-05	1.29E-06	1.19E-04	1.51E-04	0.00E+00

HAPs - Metals (continued)

Emission Factor in lb/mmcft	Mercury 2.6E-04	Manganese 3.8E-04	Nickel 2.1E-03	Selenium 2.4E-05	Total Haps Metals
Emission Factor in lb/mmBtu	2.5E-07	3.7E-07	2.1E-06	2.4E-08	
Potential Emission in tons/yr	2.80E-05	4.10E-05	2.26E-04	2.59E-06	6.40E-04

HAPs - Organics

Emission Factor in lb/mmcft	Methylnaphthalene 2.4E-05	3-Methylchloranthrene 1.8E-06	7,12-Dimethylbenz(a)anthracene 1.6E-06	Acenaphthene 1.8E-06	Acenaphthylene 1.8E-06
Emission Factor in lb/mmBtu	2.4E-08	1.8E-09	1.6E-09	1.8E-09	1.8E-09
Potential Emission in tons/yr	2.59E-06	1.94E-07	1.72E-07	1.94E-07	1.94E-07

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HAPs - Organics(continued)

Emission Factor in lb/mmcft	Anthracene 2.4E-06	Benz(a)anthracene 1.8E-06	Benzene 2.1E-03	Benzo(a)pyrene 1.2E-06	Benzo(b)fluoranthene 1.8E-06
Emission Factor in lb/mmBtu	2.4E-09	1.8E-09	2.1E-06	1.2E-09	1.8E-09
Potential Emission in tons/yr	2.59E-07	1.94E-07	2.26E-04	1.29E-07	1.94E-07

updated 4/99

HAPs - Organics(continued)

Emission Factor in lb/mmcft	Benzo(g,h,i)perylene 1.2E-06	Benzo(k)fluoranthene 1.8E-06	Chrysene 1.8E-06	Dibenzo(a,h)anthracene 1.2E-06	Dichlorobenzene 1.2E-03
Emission Factor in lb/mmBtu	1.2E-09	1.8E-09	1.8E-09	1.2E-09	1.2E-06
Potential Emission in tons/yr	1.29E-07	1.94E-07	1.94E-07	1.29E-07	1.29E-04

HAPs - Organics(continued)

Emission Factor in lb/mmcft	Fluoranthene 3.0E-06	Fluorene 2.8E-06	Formaldehyde 7.5E-06	Hexane 1.8E+00	Indeno(1,2,3-cd)pyrene 1.8E-06
Emission Factor in lb/mmBtu	2.9E-09	2.7E-09	7.4E-09	1.8E-03	1.8E-09
Potential Emission in tons/yr	3.23E-07	3.02E-07	8.08E-07	1.94E-01	1.94E-07

HAPs - Organics(continued)

Emission Factor in lb/mmcft	Naphthalene 6.1E-04	Phenanthrene 1.7E-05	Total Haps Organics	Total Haps Combined
Emission Factor in lb/mmBtu	6.0E-07	1.7E-08		
Potential Emission in tons/yr	6.57E-05	1.83E-06	1.94E-01	1.95E-01

Methodology

Potential Emissions (tons/year) = Throughput (mmBtu/hr)*Emission Factor (lb/mmBtu)*8,760 hrs/yr / 2,000 lb/ton

Appendix A: Emissions Calculations
Cyclone Particulate Matter Emissions
Company Name: Central Corrugated
Address City IN Zip: 5645 W. 82nd St., Indianapolis, IN. 46278
CP: 15013
Plt ID: 312
Reviewer: SLD
Date: 02/08/2002

estimated scrap from DC-5,DC-6 in ton/yr	1E+04
estimated scrap from corrugator in ton/yr	1E+04
maximum amount of scrap in ton/yr	2.41E+04

*No Ap-42 emission factor data available

Emission factor based upon cyclone test data of a similiar facility

Emission factors for cyclone were determined to be 0.9 pounds of particulate emission per 1000 pounds of cycone catch or 1.8 lb/ton

Emission factor for PM in ton/yr	1.83E+00
Potential Emissions of PM in tons/yr	2.21E+01

Appendix A: Emissions Calculations
Starch Storage Bins
Company Name: Central Corrugated
Address City IN Zip: 5645 W. 82nd St., Indianapolis, IN. 46278
CP: 15013
Plt ID: 312
Reviewer: SLD
Date: 02/08/2002

maximum holding capacity in ton/yr	1E+01
emission factor in lb/hr	0.000497
potential emissions of PM in tons/yr	2.61E-02

emission factor obtained from AP-42 table 9.9.7-1 for starch storage bins

Appendix A: Emissions Calculations
VOC/HAPs from Right Angle Gluer
Company Name: Central Corrugated
Address City IN Zip: 5645 W. 82nd St., Indianapolis, IN. 46278
CP: 15013
Plt ID: 312
Reviewer: SLD
Date: 02/08/2002

maximum additive to starch batch in gal	3
Hap Concentration in %	0.01
maximum amount of batches	32
maximum weight of glue in lb/gal	9.59

PTE of VOC/HAP in lb/yr	3360.336
PTE of VOC/HAP in ton/yr	1.68

* note VOC/HAP concentrations same for Vinyl Acetate, Formaldehyde, and Acetaldehyde